THE UNIVERSITY OF MICHIGAN
JUL 20 1960
PERIODICAL READING ROOM

July 1960

MONTHLY REVIEW

In This Issue

Growth and Earnings at Individual Commercial Banks . . *page 3*

Is the Farm Real-Estate Boom Ebbing? . *page 10*

Current Charts and Statistics . . . . . *page 16*

FEDERAL RESERVE BANK
OF KANSAS CITY

Subscriptions to the MONTHLY REVIEW *are available to the public without charge. Additional copies of any issue may be obtained from the Research Department, Federal Reserve Bank of Kansas City, Kansas City 6, Missouri. Permission is granted to reproduce any material in this publication.*

GROWTH AND EARNINGS AT INDIVIDUAL COMMERCIAL BANKS

ATTAINING A HIGH rate of growth in the scale of operations is a concern of management at firms in nearly all industries. Interest in promoting growth is closely connected with the potential improvement in profits that may be generated, but there are, of course, other sources of motivation. There may be considerable prestige value, for example, associated with being the largest or most rapidly expanding enterprise of a kind in a community or a broader geographical area. Nevertheless, the relationship between growth and profits is a key one. Without an adequate understanding of this association, policies which might accelerate growth cannot be pursued intelligently by management.

At the individual commercial bank, no less than at firms in other industries, the growth objective ranks high among the goals of management. Few topics, in fact, stimulate so much interest among bankers as a discussion of recent growth experience, prospects for future expansion, and methods by which individual banks have succeeded in attracting and holding new customers. Presumably, this lively interest arises partly from the assumption that rapid growth will evidence itself favorably in the profit and loss account. While this assumption may seem tenable, it cannot be accepted without question. Growth creates problems as well as opportunities for bank management, generating higher total costs as well as larger gross earnings, and it is not self-evident that the balance is tipped distinctly in favor of increased profits.

This article presents an evaluation of the relationship between growth and earnings during the postwar period at larger member banks in the Tenth Federal Reserve District. Since 1947, when District bank deposits and bank assets began to expand following the immediate postwar contraction, the growth experience of these banks has been very diverse. Some have increased in size by more than 200 per cent; others have witnessed little change or, in a few cases, a moderate decline in the scale of operations. Numerous factors other than growth have influenced the relative profitability of these banks in the postwar years, but if growth and profitability were closely associated, these wide disparities in growth rates should be clearly visible in earnings rates.

Manifestly, the results of a study based on a comparatively small group of banks—all 78 District member banks with assets of over $10 million on December 31, 1947, are included—are not necessarily applicable to all banks and to all time periods. The objective of the study is to permit tentative judgments as to whether there is any systematic association to be found between bank growth and bank earnings, and data of this kind can shed some light on the question.

Pursuit of the Growth Objective at Individual Banks

Before examining the data, it may be well to consider an aspect of the banking industry which affects materially the pursuit of a growth objective by individual commercial banks. The boundaries within which an individual bank is free to influence its growth rate are circumscribed considerably more than is the case for firms in most other industries. Firms in all industries are, of course, subject to the limitations of market forces in attempting to increase their growth rates, but banks face additional constraints as a consequence of the degree of public regulation under

which they operate. Growth of commercial bank assets and deposits is, on an industry basis, primarily a function of the expansion of bank reserves, which is regulated by policies of the monetary authority. Thus, the individual bank, in considering policies which might be favorable to increased growth, must assume that the industry growth rate is determined by forces beyond the scope of its influence. Perhaps more important to the individual bank are the various controls exercised by Federal and state supervisory authorities over such things as bank charters, the existence of multiple offices, the kinds and quality of assets acquired, and the interest rates paid on deposits. Such regulations serve to limit the measures open to an individual bank for influencing its pace of expansion.

An important implication for this article may be drawn from the existence of these limits on the freedom of a bank to influence its rate of expansion. Because of these limits, growth rates of banks are affected heavily by environmental circumstances beyond their control. Differences in growth experience observed among individual banks tend to reflect these circumstances as well as to mirror differences in bank policies that encourage growth. One bank may experience rapid growth as a consequence of its location in a rapidly growing city; another may face local economic conditions much less conducive to expansion – conditions which would inhibit growth even if very costly, aggressive, growth-oriented policies were pursued. Such divergences of environmental conditions are present in the Tenth District as well as elsewhere, and no attempt is made in this article to identify the sources to which differences in growth rates are attributable.

It is apparent, therefore, that a positive relationship between growth and earnings among the larger District member banks could not be accepted as unqualified evidence that policies to promote growth are profitable, since these policies might involve relatively costly efforts to attract customers of other banks. For similar reasons, a lack of association between growth and earnings at these banks would not justify the assumption that a bank has nothing to lose from the standpoint of profitability—but perhaps much to gain from the standpoint of prestige – in adopting growth-oriented policy measures.

Some Historical Data

With these reservations in mind, a discussion of the historical data for large member banks in the District may begin with a consideration of two commonly employed measures of bank earnings—the ratios of net current earnings and net profits after taxes to total assets. Average ratios of net current earnings to assets and of net profits after taxes to assets were computed for each of the 78 banks for the 13-year period, 1947-59. The banks were divided into four classes of roughly equal numbers according to the percentage growth in their assets between 1947 and 1959, with the boundaries of the growth classes established as nearly as possible where there was a fairly clear break in the array of growth rates. The average (arithmetic mean) ratio of net current earnings and net profits to assets then was computed for each of the four classes. It should be noted that the procedure gives equal weight, in the computation of the mean, to the ratio of each bank regardless of its size. As noted in Table 1, where the results of these calculations are summarized, the four classes are designated A, B, C, and D, for ease of reference.

With regard to the ratios of net profits to assets, it is evident that Class A banks, whose assets increased more than 100 per cent between 1947 and 1959, experienced no perceptible advantage over Class D banks, whose growth was less than 30 per cent. Both groups experienced a mean ratio of .55 per cent. Banks in classes B and C, whose relative

Table 1
Ratios of Net Current Earnings and After-Tax Profits to Total Assets
13-Year Averages for the Years 1947-59

Growth Class (increase in total assets, 1947-59)	No. of Banks	Mean Ratio of Net Current Earnings to Total Assets	Mean Ratio of After-Tax Profits to Total Assets
		Per Cent	Per Cent
A (over 100 per cent)	17	1.13	.55
B (50 to 100 per cent)	21	1.15	.60
C (30 to 50 per cent)	18	1.07	.59
D (less than 30 per cent)	22	1.06	.55
All banks	78	1.10	.57

NOTE: The mean ratio for all banks may not equal the average of the four class means due to rounding.

growth ranged from 30 per cent to 100 per cent from 1947 to 1959, had slightly higher average ratios of net profits to assets than those in the other two classes, but the margin of difference is comparatively small. Thus, the growth rates of these 78 banks and their net profits to assets ratios bear no systematic relation to one another.

A similar conclusion holds for the relation between growth rates and ratios of net current earnings to assets. Classes A and B maintained slightly higher average ratios than the other two classes during the 1947-59 period, but not by a margin which could be regarded as statistically significant. That is to say, a completely arbitrary division of the 78 banks into four groups with comparable numbers of banks easily could have produced the amount of variation witnessed among the mean ratios of the four growth classes.[1]

The reader may appreciate more fully the apparent lack of association between growth rates and these two measures of profitability if brief mention is made of the experience of banks at the extremes of the growth range. Among the 10 banks in Class A whose growth rates were the highest, all having growth rates in excess of 130 per cent over the 1947-59 period, 3 enjoyed a 13-year average ratio of net current earnings to assets higher than 1.10 per cent – that is, higher than the mean ratio for the 78 banks as a group. Among the 10 most slowly growing banks in Class D, whose growth rates ranged from minus 27 per cent to plus 19 per cent, 4 had net current earnings to assets ratios of more than 1.10 per cent. The average ratio of net profits after taxes to assets for the 10 most rapidly growing banks was .50 per cent; for the 10 most slowly growing banks, .49 per cent. That banks with such greatly disparate growth experience should demonstrate so similar an earnings performance, as measured by these two ratios, is very striking.

A question might be raised as to the possibility that banks which were growing rapidly might have improved their earnings positions during the 13-year interval more than did the banks with slower growth rates. This is an important characteristic of earnings performance which would not be apparent in the 13-year average ratios. In Table 2, the mean ratios of net current earnings and net after-tax profits to assets are shown for each class of bank for the years 1947-53 and 1954-59. It may be seen that no systematic tendency existed for the more rapidly growing banks to record greater improvement in earnings. The largest increases in the ratios of net current earnings and net profits to assets were for Class D banks—those which grew least.

Gross Earnings and Costs

The absence of association between growth rates and these two measures of profitability raises a question as to whether ratios of gross earnings to assets also were unrelated to growth or whether, for these 78 banks, sys-

[1]It might be wondered whether the size distribution of the 78 banks may have influenced net earnings in such a way as to conceal a positive relation between growth and earnings. A statistical test, discussed in more detail in the technical notes at the conclusion of the article, indicates that this is not the case. The test was also used to ensure that the association between growth rates and ratios of gross earnings to assets, discussed subsequently, was not distorted unduly by the size distribution of the banks.

Table 2
Improvement in Ratios of Net Current Earnings and After-Tax Profits to Total Assets

Growth Class (Increase in total assets, 1947-59)	Mean Ratio of Net Current Earnings to Total Assets			Mean Ratio of After-Tax Profits to Total Assets		
	1947-53	1954-59	Increase	1947-53	1954-59	Increase
	Per Cent			Per Cent		
A (over 100 per cent)	1.00	1.30	.30	.53	.59	.06
B (50 to 100 per cent)	.98	1.35	.37	.54	.67	.13
C (30 to 50 per cent)	1.00	1.14	.14	.55	.63	.08
D (less than 30 per cent)	.86	1.30	.44	.49	.63	.14
All banks	.96	1.28	.32	.53	.63	.10

NOTE: The mean ratio for all banks may not equal the average of the four class means due to rounding.

tematic differences in gross earnings rates were accompanied by offsetting variations in costs. Table 3 presents data bearing upon this question. The mean ratios shown in the table all were calculated by a procedure analogous to that employed in deriving the net earnings and profits ratios in Table 1. The ratio of total expenses to total assets for any bank, it may be noted, is equivalent to the difference between the ratio of gross earnings to assets and that of net earnings to assets.

High growth banks were able to achieve distinctly larger gross rates of return on assets—the ratio for Class A is more than one fourth larger than that for Class D. Differences in gross earnings ratios among the four classes principally reflect variations in loan earnings relative to total assets. Expressed as a percentage of total assets, loan earnings over the 13-year period averaged 1.84 for Class A banks; 1.69 for Class B banks; 1.63 for Class C banks; and 1.28 for Class D banks. The disparities among the ratios of loan earnings to assets reflect both a relatively larger amount of assets committed to loans and a higher rate of return on loans which are found among the faster growing banks.

Superior gross earnings rates associated with rapid growth were, however, almost entirely offset by higher costs. A conventional measure of costs employed for banking data —the ratio of total expenses to gross earnings —indicates some relationship between growth rates and costs, but not one that is very close. Thus, the mean ratio of total expenses to gross earnings for Class A is higher, and that for Class D lower, than the mean for all 78 banks, but the variation in the means of the four growth classes around the arithmetic average ratio for all 78 banks is rather small. The mean ratios of total expenses to total assets, which relate expenses to the size of the bank rather than to its gross income, show much wider divergences among the four growth classes. Class A banks as a group had a ratio fully 40 per cent larger than that for Class D banks over the 13-year period.

There are several alternative interpretations which might be placed on this relation between growth experience and cost ratios. One possible inference is that the relatively higher level of costs at the faster growing banks was associated with aggressive efforts to attract funds. Support for this contention could be found in the fact that interest paid on time and savings deposits, expressed as a percentage of total assets, was to some degree associated with growth rates. The mean ratio of interest on deposits to total assets was .28 per cent for Class A; .27 per cent for Class B; .24 per cent for Class C; and .14 per cent for Class D. The average interest rate paid on time and savings accounts was 1.51 per cent for Class A; 1.36 per cent for Class B; 1.27 per cent for Class C; and .98 per cent for Class D.

An alternative interpretation is that the asset structure of the more rapidly growing

Table 3

Gross Earnings and Cost Ratios

13-Year Averages for the Years 1947-59

Growth Class (Increase in total assets, 1947-59)	Mean Ratio of Gross Earnings to Total Assets	Mean Ratio of Total Expenses to Gross Earnings	Mean Ratio of Total Expenses to Total Assets
	Per Cent	Per Cent	Per Cent
A (over 100 per cent)	3.17	64.14	2.03
B (50 to 100 per cent)	2.93	61.03	1.78
C (30 to 50 per cent)	2.89	63.43	1.82
D (less than 30 per cent)	2.51	57.91	1.45
All banks	2.86	61.38	1.75

NOTE: The mean ratio for all banks may not equal the average of the four class means due to rounding. Also, the mean ratio of total expenses to assets for a given class may not equal the difference between mean ratios of gross and net earnings for that class because of rounding.

banks was such as to generate larger cost ratios. Support for this view may be found in the positive association, mentioned previously, between growth rates and ratios of loans to total assets for the 78 banks in the study. Generally speaking, higher expense-asset ratios would be expected to accompany a larger commitment of assets to the loan portfolio. This difference in asset structure might, of course, result from deliberate efforts of banks to attract new deposit customers by making an ample supply of loan funds available, and the associated costs would then be considered as a price paid to accelerate growth. However, the difference might also be a product of swelling loan demands that emanate from a swiftly expanding local or regional economy.

A third interpretation, and one which the data neither confirm nor refute, relates to the possibility that the banks whose growth rate was relatively high were confronted with a challenging problem of keeping costs under control—that is, a problem of inefficiency arising from the sheer rapidity of growth. Whatever the sources of the high growth-high cost relation, it is quite significant that the advantages of accelerated growth reflected in gross earnings rates were not carried through to net earnings positions.

Net Profits to Capital

The ratios of net current earnings to assets and net profits after taxes to assets discussed earlier are not the only measures that may be used to judge bank profitability. A third commonly employed statistic is the ratio of net profits to capital accounts, and this measure provides a somewhat different perspective on the bank growth-bank earnings relationship.

From the data in Table 4, it may be seen that on the basis of the net profits to capital accounts test, growth appears to have been a factor that contributed to bank earnings. The mean ratios of net profits to capital for the four bank classes do not increase uniformly with increasing growth rates, but a positive association is evident. This relation, together with the lack of association between growth and ratios of net profits to assets, obviously means that ratios of capital accounts to total assets tended to be lower for the banks with more-than-average growth. This is particularly true of banks in Class A, whose mean ratio of capital accounts to total assets over the 13-year period was 15 per cent below the average for all 78 banks.

On the basis of profits to capital account ratios, should the faster growing banks among the 78 be regarded as having a superior profits position? Or should the approximately equal ratios of net profits to assets of the four classes be taken to imply that no important relationship existed between growth and

Table 4

Ratios of Net Profits to Capital Accounts and Capital Accounts to Total Assets

13-Year Averages for the Years 1947-59

Growth Class (Increase in total assets, 1947-59)	Mean Ratio of Net Profits to Capital Accounts	Mean Ratio of Capital Accounts to Total Assets
	Per Cent	Per Cent
A (over 100 per cent)	10.73	5.29
B (50 to 100 per cent)	9.32	6.50
C (30 to 50 per cent)	8.74	6.80
D (less than 30 per cent)	8.95	6.31
All banks	9.39	6.25

NOTE: The mean ratio for all banks may not equal the average of the four class means due to rounding.

earnings? The answer depends upon the degree of risk associated with differential growth rates. If a high expansion rate carries with it a reduction in the risk of enterprise, banks experiencing accelerated expansion could afford to keep a smaller capital cushion in relation to assets than that maintained by other banks. A given level of net profits in relation to assets would thus imply a larger rate of return to capital without a correspondingly higher degree of risk exposure. But if high growth does not carry this implication, the relatively higher profits-capital ratios achieved by the rapidly growing banks would have been associated with a risk exposure somewhat greater than that of the other banks. Perhaps it should be noted in this connection that the average capital ratios of the Class A banks were lower than average in relation to risk assets as well as to total assets; in fact, the mean ratios of capital to risk assets for both Class A and Class B banks were below the average for all 78 banks.

The hypothesis of a connection between bank growth rates and degree of risk would be unusually difficult to test empirically, since a judgment concerning the risks of enterprise must be based not only on the actual loss experience of a limited time period but also on the potential losses which might accompany seriously adverse circumstances. Certainly, for a bank whose high growth rate resulted primarily from its own promotional efforts—rather than from its favorable location in a rapidly growing community—it would be difficult to justify the contention that the risks of enterprise were in any way reduced by accelerated expansion. But it might be argued that banks in localities or regions undergoing pronounced economic development may be somewhat less likely to encounter serious adversity, since the demonstrated growth potential provides the area with a buffer against cyclical declines in general business activity. While this argument may have some general validity, it can be used to justify lower capital ratios for individual banks only with extreme caution. The source of the stimulus to growth, the probability of its withdrawal, and the character of the specific assets held by the banks all would have to be taken into account.

Table 5
Ratios of Capital Accounts to Total Assets

Growth Class (Increase in total assets, 1947-59)	Mean Ratio 1947	Mean Ratio 1959	Increase
	Per Cent	Per Cent	
A (over 100 per cent)	4.84	6.36	1.52
B (50 to 100 per cent)	5.23	8.01	2.78
C (30 to 50 per cent)	5.46	8.17	2.71
D (less than 30 per cent)	4.77	7.98	3.21
All banks	5.07	7.68	2.61

NOTE: The mean ratio for all banks may not equal the average of the four class means due to rounding.

In any case, another explanation of the differences in ratios of capital accounts to assets among the four classes deserves consideration. Banks generally have increased their ratios of capital to assets in the postwar years, but rapidly growing banks have encountered difficulty in providing for capital expansion from internal sources. It was noted earlier that net profits to assets ratios were nearly equal for the four classes. Equivalent cash dividend payout ratios thus would have meant substantially smaller additions to ratios of capital to assets among the banks whose growth was large. In fact, sufficiently rapid growth in assets will operate to reduce the capital-asset ratio of a bank even if all net income is retained; a rising level of capital in relation to assets can then be accomplished only by new issues of stock. For a variety of reasons, the rapidly growing banks may have been reluctant to augment their capital by this means.

The data in Table 5 are consistent with this view, indicating that additions to capital ratios between 1947 and 1959 were inversely related to growth rates. The mean ratio of capital to assets advanced 1.5 percentage points for Class A banks; for Class D banks, the increase was more than twice as large.

If this interpretation were correct, it would seem improper to regard the higher profits to capital ratios of the more rapidly growing banks as evidence of a positive relation between bank growth and profitability. The less rapidly growing banks, as a group, could have achieved equally large profits to capital ratios simply by increasing cash dividend payments to stockholders.

Concluding Remarks

It is interesting to note that larger District member banks with markedly different growth rates have not demonstrated greater dissimilarities in earnings during postwar years. While this does not prove that bank growth cannot be profitable, it is quite clear that rapid expansion does not provide an automatic assurance of high profits. The lack of systematic association between growth and earnings found among the 78 banks included in the study may suggest a relationship that is characteristic of other banks, but it would be unwise to generalize without further investigation.

It is perhaps worthwhile to remember, also, that a demonstration of the absence of a relationship between growth and earnings would not necessarily imply an analogous lack of association between bank size and bank earnings. Thus, it is possible that benefits from growth may be realized after the process of rapid growth has ceased and the advantages of operating on a larger scale are consolidated. The principles underlying the relative profitability of different sizes of banks are not necessarily similar to those which might be expected to govern the association between growth and earnings. This possibility, however, involves a range of questions outside the scope of the present article.

TECHNICAL NOTES

1. Virtually all of the banks included in the study are unit banks. Branch banking in District states is confined to New Mexico, where limited branching is permitted. This state contributed 4 of the 78 banks in the study.

2. Ten of the 78 banks in the study merged with other banks during the 1947-59 period. These cases were handled by consolidating the condition and earnings reports of the separate units prior to the merger date. This procedure could not be used in the case of a merger involving one bank with assets of over $10 million on December 31, 1947, and that bank was not included in the study.

3. The choice of 1947 as the initial year from which to measure growth rates was dictated by the consideration that bank deposits were declining in 1946 as Treasury balances were drawn down, and not all banks were affected equally. Thus, the 1947-59 growth measurements would more accurately portray postwar experience. The choice of an initial year is not critical, however. With such widely divergent growth experience, a different initial year would have produced only a minor rearrangement of the ordering of banks by growth classes.

4. A test was employed as a means of determining the statistical significance of observed differences in mean ratios of costs and earnings for the four classes. The technique was a conventional analysis of variance leading to a test using the F distribution. At the 1 per cent level, differences in the means were significant for the ratios of gross earnings to assets, net profits after taxes to capital accounts, total expenses to assets, interest on deposits to assets, and interest on deposits to time and savings accounts. For the ratios of net current earnings to assets and net profits to assets, the computed value of F was less than one.

It seemed desirable to supplement these tests with one that is independent of the particular class divisions, which necessarily must be somewhat arbitrary, and at the same time to provide insurance that the different sizes of the banks were not distorting the growth-earnings relationship. A multiple regression analysis was therefore performed, relating gross earnings rates to bank size and bank growth rates, and also relating net current earnings rates to these latter two variables. With gross earnings rates as the dependent variable, the partial regression coefficient for the bank growth rate variable was positive and significant at the 5 per cent level; for the bank size variable, the coefficient was negative (as expected) and significant at the 5 per cent level. With net current earnings rates as the dependent variable, the coefficients maintained the same sign but each was substantially smaller than its standard error.

Is the Farm Real-Estate Boom Ebbing?

ALTHOUGH FARM real-estate values continued to rise through 1959, the rate was noticeably slower than in preceding years. Real estate makes up over 60 per cent of the total value of farm assets. Rising real-estate values have accounted for about 70 per cent of the increase in farm assets since 1954, and are responsible for a major part of the growth in farmers' equities during this period when the price-cost squeeze has reduced net farm income.

The use of land for nonagricultural purposes is growing in importance and has a definite influence on land prices in many areas. A major proportion of land, however, continues to be used for farming. In the long run, the farmer or other owner of farm land expects to obtain a rate of return equivalent to what could be earned from other comparable investments. Thus, income from farm land is a major factor influencing its value.

The demand for farm products has increased in recent years because of a growing population and increasing per capita incomes. Farm production has increased even more rapidly and supplies have become relatively large. Therefore, the downward trend of farm product prices, combined with increased production costs, has reduced net farm income. With farm income falling, it was unusual for land prices to rise sharply from 1954 through 1959. Other elements obviously were strong enough to more than offset the depressing influence of declining income on land values during this period. The purpose of this article is to examine the developments in the farm real-estate market, determine which factors affected the market so significantly, and relate them to the current situation.

Land Value Trends

An index of the average dollar value per acre of farm real estate has been computed by the United States Department of Agriculture each year since 1912. These estimates are made for March 1 and, since 1942, also have been made for July 1 and November 1. Because no organized market exists, and only a relatively small and nonrepresentative sample of the Nation's farm real estate is sold in any limited time period, sales data are not relied on in computing the index of real-estate values. Instead, subjective estimates are made from mail surveys of regular crop reporters—farmers who fill out the questionnaires for periodic crop and livestock reports—together with supplemental surveys of real-estate dealers, bankers, county officials, and other individuals familiar with local developments. The index computed from this information provides the best available measure of general trends in land values.

This index indicates that farm land prices rose during the years immediately preceding, during, and following World War I. They reached a postwar peak in 1920, then declined steadily through the 1920's, fell sharply after the start of the depression, and reached their lowest levels in 1933. The index increased

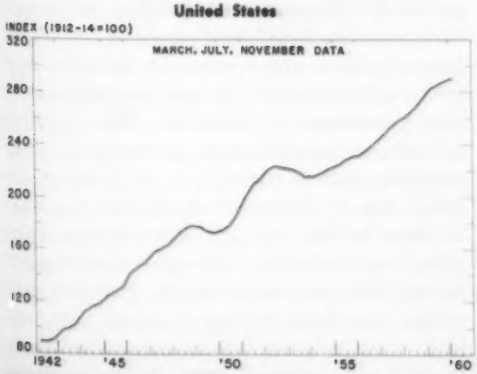
only slightly from 1933 until the outbreak of World War II, when it began to increase rapidly. This rise continued, with two short interruptions, through 1959.

The first postwar decline in farm real-estate prices occurred in 1949 and coincided with the drop in farm income that year. This decline was short and not severe. After the outbreak of the Korean conflict, farm real-estate values again increased sharply. Farm income, however, decreased again in 1952 and land prices turned downward that year. The decline continued through 1953, but the index turned upward again in 1954. This second postwar decline lasted for more than a year, with values dropping about 4 per cent.

During the period immediately following the 1952 downturn in values, there was a widely held view that the postwar peak had been reached and that farm real-estate values probably would not rise in succeeding years. This view was supported by the decline in farm income that occurred in 1952 and 1953 and by the unfavorable outlook for an improvement in farm incomes during the following years. Although net farm income did continue to decline generally in the years after 1954, the index of real-estate values rose steadily. From March 1954 to March 1960, the index rose from 216 to 291 (1912-14=100). Farm real-estate values increased 3 to 8 per cent annually from 1954 through 1959, when measured from March 1 to March 1. The smallest annual increase was 3 per cent in 1959 and the largest was 8 per cent in 1958. The increase during 1959 was relatively small in comparison with the preceding years, a development which probably resulted largely from the sharp decline in net farm income from 1958 to 1959. Farm income had increased substantially in 1958, but conditions were not so favorable in 1959 and net farm income fell back to about the 1957 level.

In each of the three 4-month periods, during the year ended March 1, 1960, the index of farm real-estate values rose only 1 per cent. Between November 1, 1959, and March 1, 1960, however, there were 16 states in which farm real-estate values declined, compared to 5 states with declines from July to November 1959 and 2 states with declines from March to July 1959. Thus, although the rise has continued, it is much less general than in previous years. Most of the states showing declines in the latest period for which data are available were in the Corn Belt or Eastern Seaboard states where land prices generally were at higher levels than the average for the Nation.

Average Value Per Acre of Farm Real Estate



SOURCE: U. S. Department of Agriculture.

Influences on Land Prices

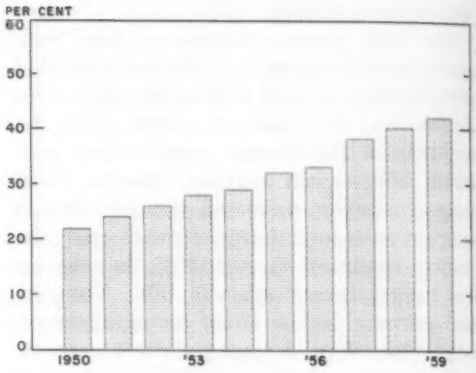
The developments between 1954 and 1960 raise the question, "Why did land values increase during this period of declining farm income?" Realized net farm income was 10 per cent lower in 1959 than in 1954, but land values were over 30 per cent higher. There was considerable variation between states and regions in farm income trends during this period, but generally an inverse relationship prevailed between income and real-estate values. Frequently, states with the largest declines in income had average or larger-

than-average increases in land values. While a reduction in the number of farms and farmers prevented a drastic reduction in per farm and per capita farm incomes, net farm income and net income per acre declined substantially and normally would have been expected to cause land values to decline if other factors had not more than offset the influence of income.

A major factor influencing farm real-estate values was the rapid change in technology, which so profoundly affected all parts of the agricultural industry. Increased mechanization and larger machines enabled farmers to handle larger acreages. Consequently, the number of farmers needed to operate the relatively fixed quantity of land in the Nation declined, but the number of people wishing to farm did not decline so rapidly. Since it frequently was necessary to expand operations to maintain or increase incomes with prices declining and costs rising, there was intense competition to obtain additional land resources. Adding acres often enabled a farmer to increase his production without a proportional increase in costs, as the new techniques frequently could be used most effectively by expanding operations. In addition, it should be pointed out that this type of merger tended to increase total agricultural output, since the farmer who added a former farm unit to his operation frequently was able to obtain more output from it than could the operator from whom he secured the additional land.

The number of farms in the United States declined by over a million during the last decade, as existing farms were combined into more efficient-sized units of operation. The percentage of farm real-estate purchases that were made for farm enlargement increased substantially during the 1950's. Based on a sample of sales reported in the March surveys used to determine farm real-estate values, the USDA estimated that about a quarter of all land purchases in the 1950-53 period were for farm enlargement, but that 42 per cent of all purchases in 1959 were for this purpose.

Percentage of Farm Real-Estate Transfers for the Purpose of Farm Enlargement



SOURCE: U. S. Department of Agriculture.

Competition, which was encouraged by the surge in agricultural productivity, was probably a primary force in pushing farm real-estate prices upward. It could be argued that increased productivity had the same effect as increasing the supply of land and was, therefore, a depressing influence on real-estate prices. To the extent that the increased production lowered farm product prices and farm income, it did tend to have that effect for agriculture as a whole. To the individual farmer, however, the increase in productivity was a stimulating influence. The adoption of new techniques such as improved crop varieties and increased use of fertilizer enabled him to obtain returns above the costs of these inputs. In agriculture, returns from these innovations have tended to become capitalized into real-estate values. Farmers, generally, have been willing to impute low returns to their labor and assign a larger share of total net returns to land, if the purchase

of additional land enables them to increase the efficiency of their operation.

Government farm programs also had an important influence on farm land values. Price supports tended to place a floor below prices and less downward pressure was exerted on land prices. Acreage controls made it desirable for farmers to acquire more land with an established acreage base and increase the size of their allotments. Thus, prices of an entire farm would be bid upward just to acquire the acreage base and allotment. Other programs such as the Soil Bank and Soil Conservation programs also had a stimulating influence on farm land values.

The demand for farm land from nonfarm sources was an added force in raising farm real-estate prices. Expansion of road building; growth of suburbs, cities, and towns; industrial expansion; and development of recreational, flood control, and reclamation projects used large quantities of farm land, and to divert this land to nonfarm uses it was necessary to bid prices above the levels justified for agricultural uses. The USDA tries to minimize the effects of sales of land for nonfarm purposes in constructing the index of real-estate values by instructing reporters not to consider such sales in estimating the average value of land in their areas. However, the effects of such sales cannot be completely eliminated, since they also affect the value of all surrounding land. Reclamation and irrigation projects offset, to some extent, the use of crop land for nonfarm purposes by bringing additional land into production. But these projects also tended to cause real-estate values to rise by increasing productivity on the land they affected.

During the last decade, persons not engaged in farming also created a strong demand for farm land for the purposes of investment, hedging against inflation, prestige, personal satisfaction, or other reasons. Many of these people were investing income from other sources and were willing to pay more for farm real estate than could be justified from the expected returns from farming enterprises. Many of these purchases were in highly productive land areas or of high value land near large urban centers. Some were of lower quality land in less productive areas for speculative purposes or to be put into the Soil Bank.

In the financing of farm real-estate purchases, a trend toward using land contracts—in which the seller retains title to the land as security rather than take a mortgage as in conventional financing—also caused the demand for farm land to increase. Since only a relatively low downpayment is required, many potential purchasers were able to enter the market who would have been unable to do so if they had been required to obtain conventional financing. Landowners were willing to sell by contract because they frequently could obtain a higher price and their risk was no greater because they retained title to the land until the contract was fulfilled.

While the expansion of farm size was made possible by technological developments and encouraged by economic conditions, little land was available for purchase in most areas. Usually, only a relatively small amount of land is for sale in an area at any one time, but in recent years an even smaller number of farms than normal has been sold. Thus, while the number of voluntary transfers per 1,000 farms in the Nation averaged from 40 to 50 per year in the 1940's, they averaged only a little over 30 per year after 1954. The financial position of farmers was very favorable during the 1950's and, even though their income position was deteriorating, in most instances it was not necessary for them to sell. In addition, the steady advance in land values provided an additional reason for retaining land during much of the 1950's. The extension of social security to farmers and the adoption of the Soil Bank program encour-

aged many retiring farmers to hold onto their land. The Soil Bank also caused land to be taken out of production and some owners were enabled to keep land they might have sold had they been forced to operate it themselves or try to secure tenants to operate it. Land in the Soil Bank takes less work and supervision to maintain but still earns an income.

Thus, during the upward trend in farm real-estate prices during the late 1950's, there was a strong demand for land from both farmers and nonfarmers, and supplies were insufficient to meet this combined demand. As a consequence, land prices continued to rise.

Implications of Recent Developments

The slowdown in the rate of increase in farm real-estate values during 1959 raises the question of whether the postwar rise is coming to an end. At the time, the 1952-53 decline was widely thought to mark the end of this rise, but as has been shown, other factors were sufficiently strong to overcome the unfavorable effects of a declining level of net farm income. There are still opposing forces in the farm real-estate market, but those that have caused land prices to rise may not be as strong as during the 1950's.

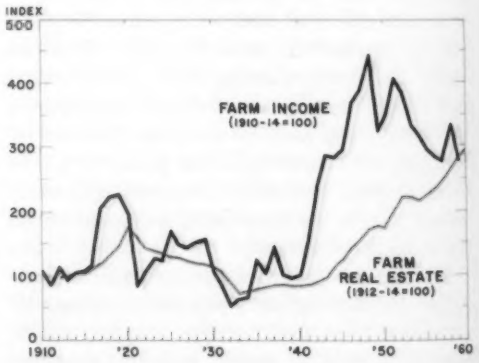
The process of farm enlargement continues to be a factor in maintaining a strong demand for farm land as farmers compete to acquire additional land resources. Although people are leaving agriculture at a relatively rapid rate, there are still more farmers than are needed to handle the existing amount of land with modern equipment and technology. Under present conditions, only the highly efficient will be able to maintain their incomes, and many will find it essential to increase their size of operations to do so.

Additional upward pressure on farm land prices also will continue to be exerted by the need for additional land for nonagricultural uses. Each new highway, subdivision, and plant site adds to the demand for farm land, and usually at a price much higher than is justified if based on agricultural productivity.

Among the factors that make the demand for farm land less intensive is the decline in farm income relative to real-estate values that has occurred in recent years. Land prices are higher in relation to farm income than at any time during the postwar period. During the war and early postwar years, farm income rose more rapidly than real-estate values, but during the 1950's, land prices continued to rise while income declined. With these two factors now more in line with their historical relationships, farm income in the immediate future again may be a more dominant influence in determining land values. It will take an unusual set of conditions to cause farm incomes to increase substantially in the near future.

Not only has the income position of farmers deteriorated in recent years, but their financial position is not as favorable for maintaining land prices. The value of farm assets and of farmers' equities has continued to reach new highs each year, but much of this in-

Farm Real-Estate Values and Realized Net Farm Income



* March 1 data.
SOURCE: U. S. Department of Agriculture.

The Farm Balance Sheet, United States, January 1, 1940-59

In Billions of Dollars

	ASSETS				CLAIMS			
Year	Real Estate	Other Physical	Financial	Total	Real-Estate Debt	Other Debt	Owners' Equities	Total
1940	33.6	15.2	4.2	53.0	6.6	3.4	43.0	53.0
1941	34.4	15.9	4.8	55.1	6.5	3.9	44.7	55.1
1942	37.5	19.4	5.6	62.5	6.4	4.1	52.0	62.5
1943	41.6	24.2	7.5	73.3	6.0	4.0	63.3	73.3
1944	48.2	25.7	9.9	83.8	5.4	3.5	74.9	83.8
1945	53.9	26.7	12.5	93.1	4.9	3.4	84.8	93.1
1946	61.0	26.0	15.0	102.0	4.8	3.2	94.0	102.0
1947	68.5	29.5	15.9	113.9	4.9	3.6	105.4	113.9
1948	73.7	35.5	16.0	125.2	5.1	4.2	115.9	125.2
1949	76.6	39.4	16.1	132.1	5.3	6.1	120.7	132.1
1950	75.3	39.6	15.9	130.8	5.6	6.9	118.3	130.8
1951	86.8	46.7	16.1	149.6	6.1	7.0	136.5	149.6
1952	96.0	53.0	16.6	165.6	6.7	7.9	151.0	165.6
1953	96.6	49.6	16.7	162.9	7.3	8.8	146.8	162.9
1954	94.7	48.0	17.0	159.7	7.8	9.3	142.6	159.7
1955	98.8	48.4	17.5	164.7	8.3	9.5	146.9	164.7
1956	102.7	47.6	18.0	168.3	9.1	9.8	149.4	168.3
1957	109.5	49.0	17.9	176.4	9.9	9.6	156.9	176.4
1958	116.3	52.2	18.2	186.7	10.5	9.7	166.5	186.7
1959	125.1	59.0	19.0	203.1	11.3	12.0	179.8	203.1

SOURCE: U. S. Department of Agriculture.

crease has been caused by rising real-estate values. Farmers' financial assets also have increased slightly, but were only 9.4 per cent of total assets in 1959, compared with 12.2 per cent in 1950. Farm debt has increased relative to assets, but is only a small percentage of total farm assets. Farmers, as a group, are still in a relatively favorable position, but more are now in marginal positions and are more vulnerable to the price-cost squeeze. More of those who have been unable to maintain a competitive position will likely find themselves under mounting pressure to leave agriculture, thereby lessening the competition for farm land.

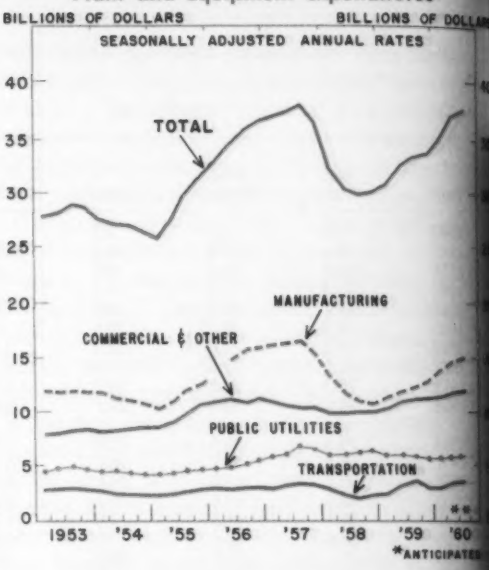
The demand for farm real estate for investment purposes does not seem so strong now as during the last decade. Currently, demand for land as an inflation hedge seems to have subsided and returns on farm real estate are lower than on most other investments. While nonfarmers may continue to buy land for prestige, speculation, or for other purposes, the demand for investment purposes is not likely to be as important an influence on land prices as during the last decade when it was especially strong.

In summary, although the influences that have been responsible for increased farm real-estate values in recent years will continue to exert an upward pressure on values, it does not appear probable that demand will be as strong as in the 1950's if present trends in agriculture continue. The competitive struggle of farmers to increase their incomes by adopting new technology and expanding their operations will continue to be an important influence on the real-estate market as well as on other phases of the agricultural economy. However, the continuance of surplus productive capacity in agriculture will continue to dominate the outlook for farm income, which may be a stronger influence in the real-estate market than in many recent years.

Inventory-Sales Ratios

NOTE: Computed from seasonally adjusted data.

Plant and Equipment Expenditures



*ANTICIPATED

BANKING IN THE TENTH DISTRICT

District and States	Loans				Deposits			
	Reserve City Member Banks		Country Member Banks		Reserve City Member Banks		Country Member Banks	
	May 1960 Percentage Change From							
	Apr. 1960	May 1959	Apr. 1960	May 1959	Apr. 1960	May 1959	Apr. 1960	May 1959
Tenth F. R. Dist.	†	+5	+1	+9	−1	−2	−1	+2
Colorado	†	+7	+1	+10	−1	†	−1	+2
Kansas	−2	†	+2	+7	−5	−4	†	+3
Missouri*	−1	+8	+1	+9	†	−1	−2	−1
Nebraska	+2	−3	+1	+10	†	−2	−2	−2
New Mexico*	**	**	+2	+10	**	**	†	+2
Oklahoma*	+1	+6	+1	+9	−1	−4	†	+3
Wyoming	**	**	+2	+8	**	**	†	+2

*Tenth District portion only.
†Less than 0.5 per cent.
**No reserve cities in this state.

PRICE INDEXES, UNITED STATES

Index		May 1960	April 1960	May 1959
Consumer Price Index	(1947-49=100)	126.3	126.2	124.0
Wholesale Price Index	(1947-49=100)	119.7	120.0	119.0
Prices Rec'd by Farmers	(1910-14=100)	241	242	244
Prices Paid by Farmers	(1910-14=100)	301	302	299

r Revised.

TENTH DISTRICT BUSINESS INDICATORS

District and Principal Metropolitan Areas	Value of Check Payments		Value of Department Store Sales	
	Percentage change—1960 from 1959			
	May	Year to date	May	Year to date
Tenth F. R. District	+4	+3	−2	−1
Denver	+9	+8	+3	+1
Wichita	−5	−3	−18	−12
Kansas City	+4	+3	0	+1
Omaha	+3	−1	+3	+1
Oklahoma City	+5	+1	0	−2
Tulsa	+3	0	−9	−4